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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,819	09/08/2003	**Zeev Smilansky**	27455	2876

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EXAMINER	
BITAR, NANCY	
ART UNIT	PAPER NUMBER
2624	
MAIL DATE	DELIVERY MODE
05/16/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/658,819	SMILANSKY, ZEEV	
	Examiner	Art Unit	
	NANCY BITAR	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2 and 7-55* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,7,18-26 and 37-55* is/are rejected.

7)☐ Claim(s) *8-17 and 27-36* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/26/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Supplemental Action

1. This action is responsive to the Amendment filed 17 March 2008, which was filed prior to the mailing of the previous Office Action on 20 March 2008. The previous action is withdrawn, and this new action takes its place.

Response to Arguments

1. Applicant's responses to the last Office Action, mailed 08/09/2007, have been entered and made of record.

Applicant has amended claims 42, 43. Claims 50-55 have been added. Claims 2 and 7-55 are currently pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 43 and 51 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The limitation in claim 43 " the image detection process includes at least a first process for assigning for each received pixel a pixel type out of a plurality of possible pixel types, and wherein at least pixels of a first pixel type are further processed according to at least a second process not performed upon pixels with

different types". The closest disclosure in the specification is as follows: determining for each pixel of the image whether it is a hot pixel according to predefined criteria. Examiner believes that the first process is the process that detects the hot pixels. Moreover the limitation in claims 51 "identifies the subset of pixels of the scene" the closest disclosure is identifying the changes in the scene.

Claim Rejections - 35 USC 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 7,18-26,37-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hanko et al (U.S. Patent 6,493,041), and Tumer et al(US Patent 2004/0017224)

As to independent claim 43, Hanko et al teaches a digital camera for producing an image of a scene (video camera 110); and a processor (130) associated with said camera (110), said processor adapted to run at least a dynamic range control process and an image processing detection process, wherein the image detection process includes at least a first process for assigning for each received pixel a pixel type out of a plurality of possible pixel types, and

wherein at least pixels of a first pixel type are further processed according to at least a second process not performed upon pixels with different types; (see figures 2 and 4, the status of pixels is represented by the pixel sensitivity and weight and whether it is significant or not , see column 7, lines 56-60 and column 9 , lines 31-62, the status can also be the color of pixel see column (5, lines 60-66, of Hanko, motion detector 180 analyses the current frame to determine whether motion has occurred, column 8, lines 39-50 , in figure 4 step 425 determination is made whether the pixel difference is significant, see also figure 4 where the status of the pixel includes if it is significant or not (first status) and if it is determined that the pixel difference is not significant (2^{nd} status))) ; and Hanko et al teaches the invention is implemented with appliances and electronic devices using embedded processors and controllers and LCD but Hanko fails to teach fails to specifically teach the dynamic range control process is adapted to change the dynamic range settings of the camera. Specifically, Tumer et al et al. teaches an image processor including a circuit ``component that control the dynamic range to be adjustable and switchable thus getting more accurate and faster output (paragraph [0075]). Moreover, Tumer clearly teaches the use of the DRC is adjustable or selectable to meet the requirement of the various sensors. By allowing the DAC range and resolution to be adjusted to the requirement of different experiments It would have been obvious to one of ordinary skill in the art to use the DRC (RENA-2) in Hanko et al controller in order to take advantage of the observation that the degree of the variation in pixel value that occurs from frame to frame due to noise tends to be fairly well-defined and consistent in order to eliminate the effects of noise. Therefore, the claimed invention would have been obvious to one of ordinary skill in the art at the time of the invention by applicant.

As to dependent claim 44, Hanko et al teaches the apparatus of claim 43, wherein the image processing detection process (an apparatus for detecting motion in video 110, column 5, lines 50-52) is configured to determine an initial parametric representation of the scene and to continuously update said parametric representation (each pixel location in an image is accurately and repeatable measured and a "value" is assigned to each pixel, column 5, lines 60-65) to slow changes in the scene (making the device to detect very slow moving objects, column 7, lines 17-25)

As to claim 45, Hank et al teaches the apparatus of claim 44,wherein said slow changes include changes in illumination (In a video motion detection system it is important that changes in lighting are not confused with motion, column 7, lines 16-25).

As to claim 46, Hanko et al teaches the apparatus of claim 43, wherein the processor(130) is configured to: determine an initial parametric representation of said scene (current reference frame,144) and update said parametric representation according to predefined criteria (new reference frame selector, 170, column8, lines 61-67); analyze pixels of said image so as to determine which of said pixels are hot pixels according to predefined criteria(motion detector 180 analyses the current frame to determine whether motion has occurred, column 8, lines 39-50 , in figure 4 step 425 determination is made whether the pixel difference is significant);define at least one target from said hot pixels; measure predefined parameters for at least one of said at least one target ;and determine for at least one of said at least one target whether said target is of interest according to application specific criteria (a pixel difference counter that counts the number of significantly different pixels of the current frame is incremented at step 430).

As to claim 49, Hanko et al teaches the dynamic range control process is configures to match an amount of light captured by the camera to the sensitivity of the camera (column 7, lines 17-25).

As to claim 50, Tumer teaches the apparatus of claim 43 wherein when dynamic range is changed the image detection process adapts itself to the new dynamic range setting by updating one or more parameters of the image detection process (the use of the DRC is adjustable or selectable to meet the requirement of the various sensors. By allowing the DAC range and resolution to be adjusted to the requirement of different experiments, paragraph [0075])

As to claims 51-52, Hanko teaches the image detection process identifies a subset of pixels of the scene wherein one or more parameters of the image detection process include average pixel value, standard deviation pixel value and minimal pixel value and maximal pixel value (A technique known as trailing exponential averaging is used to generate the average number of pixels that are changing from frame to frame, column 6, lines 42-61).

As to claim 53, Hanko teaches the apparatus of claim 43 wherein pixels of the first type are processed by at least counting pixels of the first type (difference counter, 165, Hanko et al, note that the difference counter keeps a count of the number of pixels for each frame that are significantly different from the corresponding pixels in the current reference frame, column 8, lines 41-45, column 10, lines 1-8)..

As to claim 54, Hanko et al teaches the apparatus of claim 43 wherein pixels of the first type are further processed using a geometric analysis (figure 3)

As to claim 55, Hanko et al teaches the apparatus of claim 43, wherein the plurality of possible pixel types numbers two distinct types, and wherein the second process include a process of segmenting hot pixels into one or more connected components ((image understanding techniques automatically segment a video image into regions of pixels that correspond to objects in a video camera's field of view, column 2, lines 22-30).

As to claim 2, Hanko et al. teaches the apparatus of claim 46, wherein the processor is configured to track at least one of said at least one target, by measuring motion parameters of said target (motion detector 180 analyses the current frame to determine whether motion has occurred, column 8, lines 50-60).

As to claim 7, Hanko et al teaches the apparatus of claim 46, where the processor is configured to compute said initial parametric representation from a plurality of acquired images (same difference value threshold is applicable to a plurality of adjacent image elements of said first incoming video frame, column 14, lines 5-7).

As to claim 22,Hanko et al teaches the apparatus of claim 2, the processor is configured to match target with the same target in a previously captured image (pixel difference 150 compares the difference between incoming and reference pixels against a constant threshold, figure1).

As to claim 47 and 48, Hanko et al teaches the apparatus of claim 43, where in digital camera has a frame size the order 1800 pixels and the image processing detection process is updates to process 1 frame per second and is adapted to process less that 30 million pixels per

second (described as operating on pixels of an image frame, the invention may operate on other image elements, such as, for example, groups of pixels, column 12, lines 20-36)

As to claim 18, Hanko et al teaches the apparatus of claim 46, wherein the processor is configured to define at least one target comprises means for segmenting said hot pixels into connected components (image understanding techniques automatically segment a video image into regions of pixels that correspond to objects in a video camera's field of view, column 2, lines 22-30).

As to claim 19, Hanko et al teaches the apparatus of claim 46, the processor is configured to count the hot pixels in said target (difference counter, 165, Hanko et al, note that the difference counter keeps a count of the number of pixels for each frame that are significantly different from the corresponding pixels in the current reference frame, column 8, lines 41-45, column 10, lines 1-8).

As to claim 20, Hanko et al teaches the apparatus of claim 46, wherein the processor is configured to compute a rectangle circumscribing said target (The incoming image is divided up into rectangles, typically N x M rectangle, column 2, lines 31-44).

As to claim 21, Hanko et al. teaches the apparatus of claim 46, wherein the processor is configured to analyze said measured predefined parameters according to said application-specific criteria (motion detector180 analyses the current frame to determine whether motion has occurred, column 8, and lines 50-60).

As to claim 22 and 23, Hanko et al teaches the apparatus of claim 2,wherein said means for measuring motion parameters comprises means for matching said target with the same target

in a previously captured image (pixel difference 150 compares the difference between incoming and reference pixels against a constant threshold, figure1).

Claims 24-26,38-42 differ from claim 2,4-7,18-48 only in that claims 24-26,38-42 are method claim whereas, claim 2,4-7,18-48 are an apparatus claim. Thus, claims 24-26, 38-42 are analyzed as previously discussed with respect to claims 2, 4-7, and 18-48 above.

Allowable Subject Matter

5. Claims 8-17 and 27-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NANCY BITAR whose telephone number is (571)270-1041. The examiner can normally be reached on Mon-Fri (7:30a.m. to 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew W. Johns/
Primary Examiner, Art Unit 2624

Nancy Bitar 5/10/2008